BALATONI, Pal; KOCSIS, Gabor

Spinning mill reconstructions. Magy textil 16 no. 2:69-70 F '64.

BALATONI, Pal; KOCSIS, Gabor

Some words about the looms with sticky levers. *Magy textil* 17 no.2:73-76 F '65.

AGAFEYEV, N.I.; BALATOV, P.S.; ZVEREV, B.P.; IVANOV, I.A.; KRUGLIY, S.M.; NIMTY, I.M.; FLEYSHMAN, V.G.; KHAIN, V.A.; SHUR, V.A.; EL'SKIY, V.N.

Condensation of a solution in vacuum evaporator installations. Prom.energ. 15 no.4:15-16 Ap '60. (MIRA 13:6)
(Evaporating appliances)

B/004/62/000/010/001/003
D274/D308

AUTHORS: Balashev, Angel, Balatova, Adriana, Bekyarov, Emil (Engineers) and Nikolov, Radi, Doctor of Engineering Sciences

TITLE: Investigation of the mechanical properties of steel 45 and 40X (40Kh) turned electromechanically

PERIODICAL: Tekhnika, no. 10, 1962, 365-368

TEXT: This subject was investigated in NII po Mashinostroene i Metaloobrabotvane (Scientific Research Institute of Machine Building and Metal Manufacturing). Similar investigations were carried out in the USSR by Larin, Pakhomov, and Askhinazi. The following mechanical properties of equal samples of steel 45 and 40Kh with and without thermal treatment, were established by parallel measurements when treated with and without electric current of 220, 300 and 380a, and with cutting speed of 5-22 m/min, using a feed rate of 0.1 mm/rev and a cutting depth 3 mm. The surface hardness of nontempered steel does not change, while that of tempered steel with hard-

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ness above H.R.C. 30 kg/mm^2 decreases with increasing current and the cutting speed. The smoothness measured by the electronic apparatus type 6100 Brüel and Kjaer, is greater when electromechanical turning is used. Wear strength, measured by Savin's method, does not change in the case of plastic samples while in the case of harder ones it decreases with increasing current. The fatigue limit, measured by Ampler's machine type BE 133 (VB 133), (when electromechanical turning with a current of 220 a is used), increases independently of the initial structural state of the samples, so that with the harder samples it reaches 40%. The tensile strength was not studied. There are 6 figures and 3 tables.

Card 2/2

AMEROZ, Zdenek; BALATOVA-TULACKOVA, Emilie

Biologic and humus elements of the soil on which certain meadow plants in the valley of Opava River are growing, and their relation to the locality and vegetation. Prir cas slezsky 23 no.2:161-174 '62.

1. Katedra botaniky a mikrobiologie, Vysoka skola zemedelska, Brno; Botanicky ustav Ceskoslovenske akademie ved, odbocka Brno.

CZECHOSLOVAKIA

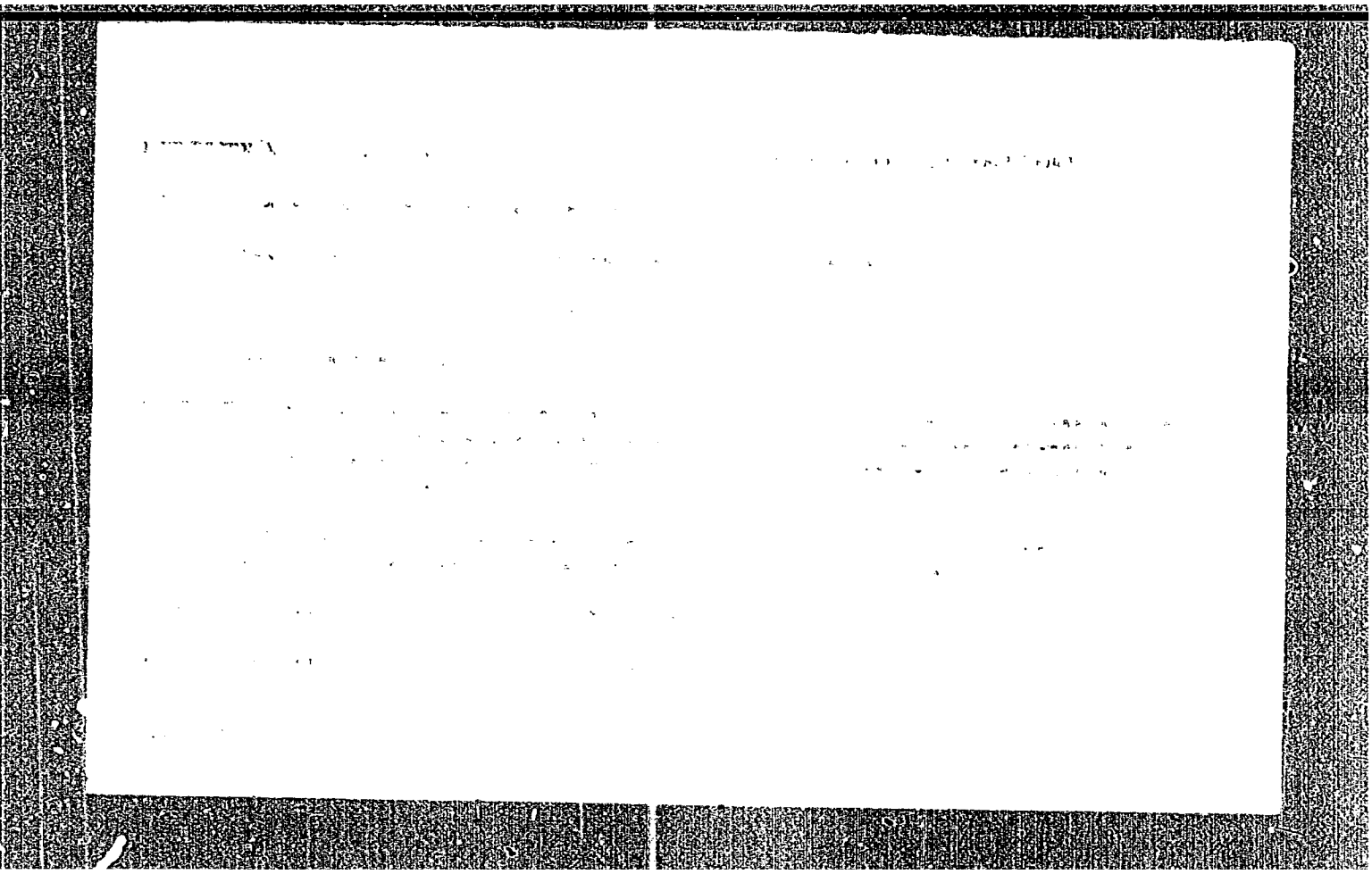
BALATOVA - TULACKOVA, Emilie; Botanical Institute of the Czechoslovak Academy of Sciences, Branch at Brno [Botanicky Ustav CSAV, Odbocka Brno].

"The Influence of the Buffering Properties of Soils on Some Kinds of Magnocaritelia and Molinietalia."

Bratislava, Biologia, Vol 18, No 10, 1963, pp 713 - 729

Abstract: The author studied the influence of the buffering properties and the pH values of some soils on some swamp and meadow plants. It was found that some varieties are sensitive to these influences and some are not. Examples of both are given. The influence of the level of underground water in connection with the pH values of the soil on the ecology of the vegetation is discussed. It was found that it is possible to predict the influence of the variation of the underground water level on the growth of the plants studied.
18 Figures, 4 Tables, 6 Czech, 6 German references.

1/1



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R000103

BALATS, D.S.

Standardizing metallic supports for development mining. Ugol' 32 no.4:24-25 Ap '57. (MLRA 10:5)

1. TSentral'noye normativno-issledovatel'skoye byuro. (Mine timbering)

117-58-6-9/36

AUTHORS: Balats, D.S., Shershnev, V.R., Morozov, I.L., Engineers

TITLE: Increasing the Wear Resistance of the Bearing Settings in the Frames of Face Machines (Povysheniye iznosostoykosti posadochnykh mest pod podshipniki v korpusakh zaboynykh mashin)

PERIODICAL: Mashinostroitel', 1958, Nr 6, pp 19-20 (USSR)

ABSTRACT: The worn bearing-settings in face machines were repaired formerly in the following way: a 5-mm layer of the metal was removed, and then new metal fused-on by means of the TsM-7 electrodes. This new metal is then machined. The process of repairing the setting in this way is very difficult. In the Rutchenkovsk Plant imeni N.S. Krushchev two apparatuses (Figure 2-3) were developed: a floating reamer and a floating roller. The repair process is now carried out in the following way: electric fusing on the worn surface; rough boring with an allowance of 0.15-0.25 mm; clean boring (with the reamer) with an allowance of 0.01-0.25 mm; finishing by means of the special floating roller. This method is used for repairing settings under the bearings with a diameter of 90-220 mm. The

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117-58-6-9/36

Increasing the Wear Resistance of the Bearing Settings in the Frames of Face Machines

new method increases the wear resistance of the settings 3-4 times and the period between overhauls 2-3 times. There are 2 figures.

ASSOCIATION: Rutchenkovskiy zavod imeni N.S. Krushchëva (Rutchenkovsk Plant imeni N.S. Khrushchev)

AVAILABLE: Library of Congress

Card 2/2 1. Machines-Bearing settings-Maintenance

BALATS, D.

Let's improve the work of research centers for setting up labor norms in coal mining. Sets. trud. no.9:77-79 '58. (MIRA 11:10)
(Coal mines and mining) (Time study)

25(2) SOV/117-59-5-18/30

AUTHOR: Balats, D.S., Engineer

TITLE: A Surface Lapping Attachment

PERIODICAL: Mashinostroitel', 1959, Nr 5, p 32 (USSR)

ABSTRACT: To mechanize the lapping of flat surfaces of machine parts (jaws, compressor rings and so forth), foreman L.Ye. Dorofeyev and designer Ye.V. Moiseyev from the mechanical repair shop of the Shchekinskiy gazovyy zavod (Shchekino Gas Plant) have designed a special attachment. It consists of an eccentric chuck and a driver faceplate with driver chucks, and is used on vertical drilling machines, i.e. attached to the drilling machine spindle by the center chuck. A lapping plate is put on the drilling machine table, the workpieces are attached to the driver chucks (Figure 2). The lapping is carried out by rotation, combined with radial shifting (through the eccentricity of the center chuck). The rotation speed is controlled by changing the rpm of the machine spindle. The eccentric is shown in a drawing (Figure 1).

Card 1/2 The attachment has raised the rate of the lapping process by

A Surface Lapping Attachment

4 times, and improved the accuracy of lapping. There are 2 diagrams.

Card 2/2

BALATS, D.S., GREBENNIK, I.I.; KUZEMKIN, V.I.

Machine for bending clamps. Mashinostroitel' no.7:34 Jl '59.
(MIRA 12:11)
(Bending machines)

BALATS, D.S.; MALINOVSKIY, V.N.

Machine for coiling coupling devices. Mashinostroitel' no.12:23 D '59. (MIRA 13:3)
(Machine tools)

21(7)

AUTHORS: San'ko, L. A., Takibayev, Zh. S., Shakhova, Ts. I., Balats, L. Ya. SOV/56-37-1-1/64

TITLE: On the Angular Distribution of Shower Particles in Stars Formed by Particles of High Energy (Ob uglovom raspredelenii livnevykh chastits v zvezdakh, obrazovannykh chastitsami bol'shoy energii)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 1, pp 3-10 (USSR)

ABSTRACT: In the course of the evaluation of emulsion piles exposed in the geographical latitude of Moscow at a height of 30 km, a star (20 + 15 + 59p) was recorded, which had been produced by an interaction between a cosmic radiation proton and an emulsion nucleus (Fig 1). In the present paper the authors report about an analysis of the angular distribution of charged particles in this star. The energy of the primary particle was determined as amounting to

$E = (19\ ^{+50.7}_{-14.0}).10^3$ Bev. According to Heitler and Terreaux (Ref 4) the star ought, at such high energies, to consist only of 3-4 highly ionizing particles; the star investigated by

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the authors (N_h = 35) cannot be explained by the Heitler-Terreaux theory. Figure 2 shows the differential angular distribution of the shower particles in this star. The histogram has two different maxima. For comparison, the curves for isotropic distribution (in the cms), for Heisenberg distribution, and for distribution according to Landau are plotted. It was found that, if it is assumed that in a nucleon-nucleus collision the angular distribution does not deviate considerably from that of the mesons formed in a nucleon-nucleon collision, the angular distribution observed can be explained neither by Heisenberg's (Ref 6) nor by Landau's theory (Ref 7). Figure 3 again shows a histogram of the angular distribution of shower particles in the laboratory system. The curves 1,2,3,4 (in the cms) successively show Gaussian, isotropic, and anisotropic distribution for each of the two maxima separately (in consideration of the energy spectrum of the produced particles and on the assumption that they are monoenergetic). It may be assumed that the two maxima observed in the differential angular distribution originate from a meson

On the Angular Distribution of Shower Particles in Stars Formed by Particles of High Energy SOV/56-37-1-1/64

emission of two unconnected centers, which move in different directions in the cms: 30 particles in the narrow and 29 in the diffuse cone. Figure 4 shows the integral angular distribution of such a star. The authors then give a report on an investigation of further 11 stars with $E_{prim} > 100$ Bev, which have the same characteristic anisotropy. Figure 5 shows the total histogram of these 11 showers with the two maxima. Table 2 shows the results of an analysis of all investigated showers (Nr 10 gives the data of the first star described in detail). In conclusion, the angular distribution of the gray and black traces of the (35 + 59p) star is discussed on the basis of figure 6. There are 6 figures, 2 tables, and 12 references, 8 of which are Soviet.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR (Institute of Nuclear Physics of the Academy of Sciences, Kazakhskaya SSR)

SUBMITTED: November 14, 1958

Card 3/3

BALAC, M. JA.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1623
AUTHOR BALAC,M.JA., LEBEDEV,P.I., OBUCHOV,JU.V.
TITLE Measuring the Life of K-Mesons.
PERIODICAL Žurn.eksp.i teor.fis,31,fasc.3, 531-533 (1956)
Issued: 12 / 1956

The average life of the charged K-mesons of cosmic radiation was measured at sea level with the help of liquid-scintillation-counters and of a high frequency oscillograph. The arrangement and the mode of operation of the counters is discussed in short. The time needed for development was

$1,3.10^{-7}$ sec and the minimum time of growth in the amplifier was $2,5.10^{-9}$ sec. The error, which was found by experimenting and which is connected with the

fluctuations in time of the photomultiplier FEU-19 remained below 10^{-9} sec. A further source of errors is mentioned.
For the purpose of taking "post impulse" of the multiplier and of the shifts with respect to time between impulses (which occur as a result of the difference in the time needed for the passage of two coupled particles) into account, the distributions of the time intervals between impulses in the case of different arrangements of the counters are measured. In connection with these control tests the number of acts of decay in the counter itself was negligibly small. The results of these control tests were taken into account when dealing with the results.

Žurn.eksp.i teor.fis,31,fasc.3,531-533 (1956) CARD 2 / 2 PA - 1623

The lowest energy of the decaying myon which was still able to obtain a response from the measuring system, amounted to 25 MeV. Thus the acts of decay $\pi \rightarrow \mu + \nu$ were eliminated. An act of decay $\mu \rightarrow e + 2\nu$ was able to cause the device to respond, but because the resolving power of the coincidence scheme amounts to 4.10^{-8} sec, the probability of such a response was sufficiently small.

All in all, 64 acts of decay were noticed during 1600 hours of operation in the interval of from 10^{-8} to 4.10^{-8} sec. The integral distribution of the times of decay is shown in a graph. The average life of K-mesons obtained is $(9,5 \pm 2,0).10^{-9}$ sec if a decay rule with an exponent is assumed. This result is in agreement with those of several American works. Two further graphs illustrate the scheme of the measuring system and the curve of the resolving of the threefold coincidences.

INSTITUTION:

120-3-18/37

AUTHOR: Balats, M. Ya., Lebedev, P. I., and Obukhov, Yu. V.

TITLE: A High Speed Oscilloscope. (Vysokoskorostnoy Ostsillograf).

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.2, pp. 63 - 67 (USSR).

ABSTRACT: A description and analysis of an oscilloscope for the photographic investigation of pulses with 3×10^{-9} secs. rise time is given. The scope has been built in the Soviet Union using Russian components. The signal is applied to a two stage pre-amplifier and via a 20 meter HF cable; a phase inverter and push-pull output is applied to the vertical deflection plates of a 5RP1-A CRT (since replaced by a tube of Russian manufacture). A part of the 150-180V signal is applied via an inverting pulse transformer to a high speed time base using type 2050 thyratron. Part of the scanning voltage is used for triggering the relay of the camera shutter. The final vertical deflection amplifier consists of 12 tubes type 6Ж1П in distributed amplifier connection. Matching from the pre-amplifier to the output amplifier is achieved by means of a phase inverter designed as a three tube distributed parameters amplifier with 6Ж1П tubes. This amplifier has a gain of about 1 and band-width of about 200Mc/s. The pre-amplifier consists of two

Card 1/3 identical travelling wave amplifiers of 8 tubes 6Ж1П in

each stage. The delayed triggering is obtained using a co-axial cable length of 200 ohms impedence between the phase inverter and the pre-amplifier. Matching between all stages is achieved by means of a 200 ohms impedence for the grid line of the vertical deflection amplifier and for the anode line of the phase inverter and of the pre-amplifier. Artificial anode and grid lines are m-derived filters with m = 1.27. The load lines have m-derived sections with m = 0.6, which permits to keep the wave impedence constant up to $f \approx 0.8 f_{c.}$. A detailed description of all distributed line sections is given (Ref. 5): the total gain of the vertical deflection amplifier is 500, its response flat up to 170Mc/s, which corresponds to a rise time of about 2.5×10^{-9} secs. A detailed description of the fast time thyratron base generator is also given, two speeds being available for the final anode voltage of 23kV: 130 and 40cm per μsec. Photographs are taken using 1 : 1.5 objective and type PΦ-3 film with a sensitivity of 800 units ГОСТ. One block diagram, three circuit diagrams, the frequency response graph, a detailed drawing of the loading section, photograph of the 8 tube distributed amplifier and four

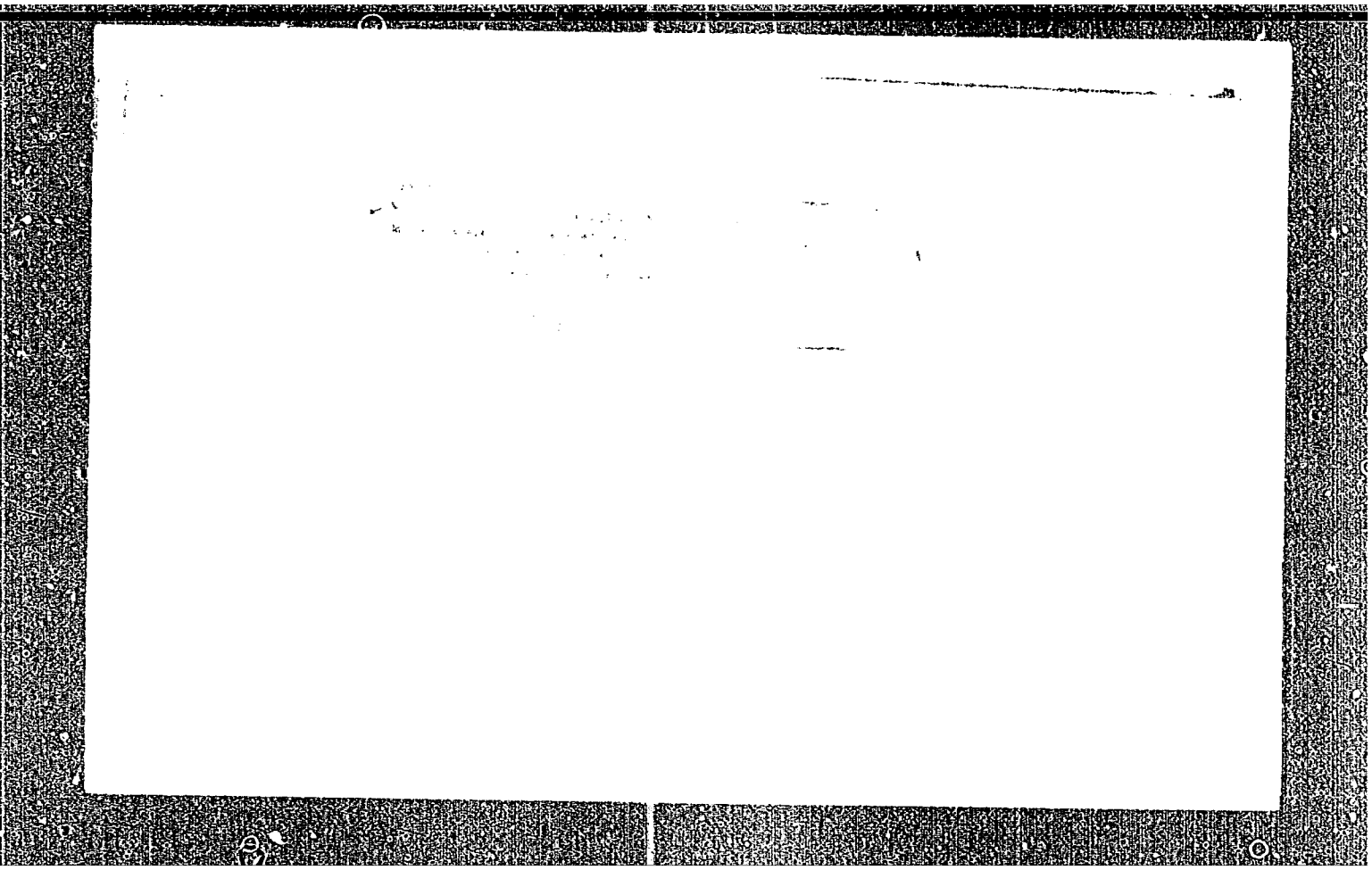
A High Speed Oscilloscope. 120-2-18/37

photographs of pulse pictures are given. S. Ya. Nikitin and A. G. Meshkovskiy have co-operated in the construction of the instrument. There are 6 references, 2 of which are Slavic.

SUBMITTED: November, 18, 1955.

AVAILABLE: Library of Congress.

Card 3/3



21(7) SOV/56-37-3-1/62

AUTHORS: Balats, M. Ya., Lebedev, P. I., Obukhov, Yu. V.

TITLE: Production of K^+-Mesons by Protons of Cosmic Rays Altitude of 3250 m Above Sea Level

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 3(9), pp 589 - 595 (USSR)

ABSTRACT: It was the aim of the present paper to determine the momentum spectrum of K^+-mesons produced by cosmic ray protons as well as to evaluate the production cross sections. In the first part of the paper the experimental arrangement (Fig 1) is described in great detail. Within a system of Geiger-Mueller counters there were 6 lead slabs of equal thickness (50 g/cm^2) and different size; below this hodoscope system there were 4 liquid-scintillation counters, two of which (C_3 and C_4) were symmetrically located on the two sides of an aluminum absorber. These four counters were connected in triple coincidence ($C_1 \cdot C_2 \cdot C_3(C_4)$). The scintillation counters are discussed separately and are schematically represented by figure 2. Figure 3 shows a block scheme of the entire apparatus. Also the radio-

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technical system of K-meson recording (life time $1.2 \cdot 10^{-8}$ sec) is briefly discussed. In the following part of this paper the K^+-decay scheme is briefly discussed. Four experiments were carried out on the device described: Experiment a: Duration 1200 hours; it served the purpose of investigating the K^+ spectrum in the range interval (50-350) g/cm^2 as well as determining the production cross section of these mesons. Experiment b: 200 hours; this experiment is carried out for the purpose of investigating the degree of efficiency of K^+-recording in the individual layers; the three lowest lead slabs had been removed for this experiment. Experiment c: 500 hours; this experiment was carried out in the same manner as experiment a, but this time the absorber had been removed. Experiment d: 196 hours. This experiment was carried out for the purpose of determining the background connected with the air showers. The directives for the evaluation of results are given, and the thus obtained data are shown in table 1. Finally, the results were discussed. In figure 6 the momentum spectrum of the K^+-mesons within the range of 0.2 - 0.9 Bev/c is shown; figure 7 shows the curve of the duration of decay. The exact value of

the life time of the K^+-mesons found in these experiments amounts to $(10.0 \pm 1.2).10^{-9}$sec. The momentum spectrum at an altitude of 3200 m may be approximated by the function $N(p)dp = A^{-2.7}dp$, where $A = 0.9.10^{-3}$ particles/cm^2sec. steradian and the angular distribution is expressed by $N(\theta)d\theta \sim \cos^6\theta\, d\theta$. The authors finally thank A. I. Alikhanov, G. P. Yeliseyev, V. A. Lyubimov, and A. G. Meshkovskiy for discussion, A. I. Alikhanyan for making it possible to work at Mount Alagez Cosmic Station, and further K. A. Zaytsev and A. N. Rozanov for assisting in the experiments. There are 7 figures, 2 tables, and 9 references, 3 of which are Soviet.

SUBMITTED: December 3, 1958

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S/056/60/038/006/020/049/XX
B006/B070

24.6200

AUTHORS: Balats, M. Ya., Kondrat'yev, L. N., Landsberg, L. G., Lebedev, P. I., Obukhov, Yu. V., Pontekorvo, B.

TITLE: Non-radiative Transitions in Heavy μ-mesic Atoms 19

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1715 - 1719

TEXT: This paper is concerned with studies of the spectra of X-ray photons emitted by mesic atoms of uranium and lead. Since so far only two 2P→1S transition mechanisms in mesic atoms have been studied (emission of meso-X-ray photons, and Auger effect), this work is a supplement as well as a contribution to the data on the properties of heavy nuclei. The experimental arrangement is described in the introduction and schematically shown in Fig. 1. A π⁻beam (270 Mev/c) from the synchrocyclotron of OIYaI (Joint Institute of Nuclear Research) was used. The targets had a thickness of 10.7 g/cm² for uranium and of 10.3 g/cm² for lead. A scintillation counter with a photomultiplier

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Non-radiative Transitions in Heavy μ-mesic Atoms

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B006/B070

of the type ФЭУ-33 (FEU-33) served as the gamma quantum detector. The counter pulses were conveyed to a 64-channel pulse-height analyzer. The background of the accidental coincidences amounted to about 5% of the counting rate. A Na^{24} source (E_γ = 1.38 and 2.76 Mev) was used for calibration and checking the linearity. The results of measurement for the range 3 - 8 Mev are shown in Fig. 3. Curve I gives the upper limit of the background, II the lower limit for the background of Pb and III the lower limit for the background of U (n - number of counts per analyzer channel). The spectra are normalized for one and the same μ^-mesons stopped in the target. The Pb curve has a clear peak at ~5.3 Mev. On account of the smallness of the NaI (TI) crystal, this peak can be due to three photon energies: 1) E_γ; 2) E_γ -0.5; Mev; 3) E_γ -1.02 Mev, where E_γ = 6.02 Mev is the energy of the $2P \rightarrow {}^1S$ transition photons in mesic lead. In the region of the peak (5 - 5.5 Mev), less counts were obtained from uranium than from lead. The mean energy of the peak corresponding to the transition $2P \rightarrow {}^1S$ is about 200 kev larger from uranium than from lead. The photon intensity difference at 6 Mev in mesic uranium and mesic lead indicates that a non radiative

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Non-radiative Transitions in Heavy μ-mesic Atoms

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transition of μ^- mesons to the 1S level of mesic uranium takes place here. Such a non-radiative transition in which the transition energy is directly transferred to the nucleus, had not yet been observed. A rough estimate of the ratio of the non-radiative transition probability in lead to the probability of emission of a photon gives the value $(W_b/W_\gamma)_{U^{238}} \sim 0.2$. Preliminary experiments have further shown that non-radiative transitions take place also in Th^{232}.

A. I. Alikhanov is thanked for his interest, and D. F. Zaretskiy for making some results available before publication. G. Ye. Belovitskiy is mentioned. The preliminary results of these investigations were communicated by A. I. Alikhanov to the Nineth All-Union Conference on Physics of High-energy Particles held in Kiyev in 1959. There are 3 figures and 6 references: 2 Soviet, 3 US, and 1 Dutch.

SUBMITTED: January 19, 1960

Card 3/5

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B006/B070

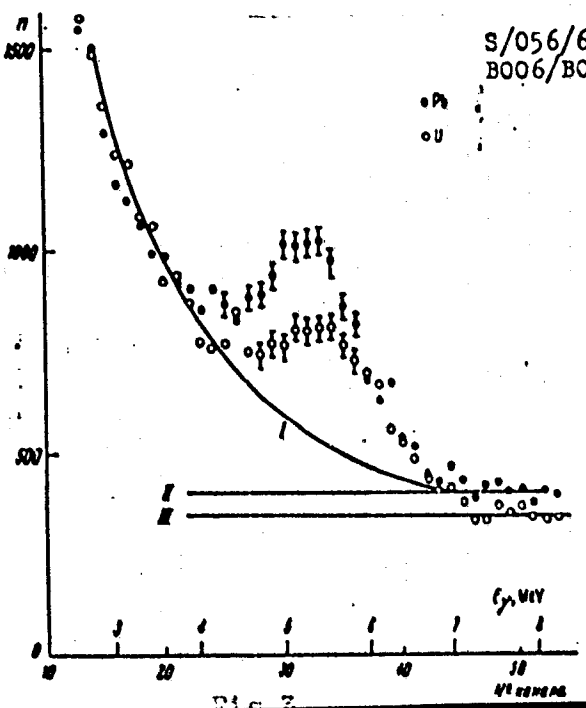

Fig. 3

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Fig. 3

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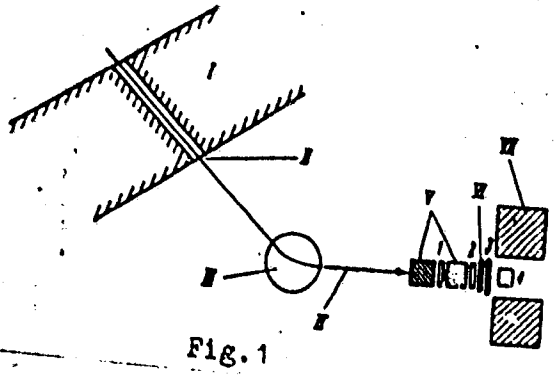

Fig. 1

Legend to Fig. 1: I - concrete shield, II - collimator, III - deflecting magnet, IV - π^-beam, V - filter (75 g/cm^2 Cu + 32g/cm^2 B_4C), VI - target, VII - counter shield (20 cm lead), 1,2 -plastic scintillators, (110 mm diameter, 10 mm thick), 3 - the same (125 mm diameter, 12 mm thick), 4 - NaI(Tl) crystal (30 mm diameter, 10 mm thick).

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84429

S/056/60/039/004/047/048
B006/B056

24.6900

AUTHORS: Balats, M. Ya., Kondrat'yev, L. N., Landsberg, L. G., Lebedev, P. I., Obukhov, B. V., Pontekorvo, B.

TITLE: The Intensity of Radiationless Transitions in μ-Mesic Atoms

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 1168 - 1170

TEXT: In an earlier paper (Ref. 1) the authors found that the intensity of mesic X-rays 2P - 1S in U^{238} normalized to one stopped muon is considerably less than in Pb. This fact indicates the existence of radiationless transitions in heavy mesic atoms, in which the energy of the 2P - 1S transition is not liberated in the form of an X-ray photon. It is assumed that the probability of radiationless transition (W_{rl}) in mesic lead is negligibly small in comparison to the probability ($W_{h\nu}$) of a transition with emission of one photon $((W_{h\nu})_{Pb} \sim 1) : 1 > (W_{rl})_{U^{238}}/(W_{h})_{U^{238}} > 0.1$. Now, the authors investigated the 2P - 1S transition intensities in the

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The Intensity of Radiationless Transitions in μ-Mesic Atoms

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mesic atoms of Pb, Bi, Th, U^{235}, and U^{238}, and give a report on this investigation. With the help of a scintillation spectrometer, the X-ray spectra in the energy ranges corresponding to the transitions were measured. Special attention was paid to determining the background level. Figs. 1 and 2 show examples of the spectra recorded. Fig. 1 shows the spectra of mesic X-ray photons from targets of Pb(4.46 g/cm^2), Bi(4.46 g/cm^2), and U^{238}(4.60 g/cm^2); as abscissa, the pulse height in volts, and as ordinate, the number of pulses in an interval of 5v is taken. Fig. 2 shows the same for Pb(5.56 g/cm^2) and U^{235}(5.59 g/cm^2). The intensities of mesic X-radiation (2P - 1S) normalized to one stopped μ^--meson (in relative units) are given in a table:

	Intensities	Fraction of radiationless 2P - 1S transitions
Pb	1	-
Bi	1 $\pm$ 0.06	0 $\pm$ 0.06
Th	0.85 $\pm$ 0.07	0.15 $\pm$ 0.07
U^{235}	0.71 $\pm$ 0.05	0.29 $\pm$ 0.05
U^{238}	0.77 $\pm$ 0.04	0.23 $\pm$ 0.04

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84429

The Intensity of Radiationless Transitions in μ-Mesic Atoms

S/056/60/039/004/047/048
B006/B056

There are 2 figures, 1 table, and 1 Soviet reference.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research). Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR (Institute of Theoretical and Experimental Physics AS USSR)

SUBMITTED: August 13, 1960

Card 3/3

BALATS, M.Ya.; KRIVITSKIY, V.V.; LEKSIN, G.A.; TREBUKHOVSKIY, Yu.V.

Shaping plastic scintillators by pressure. Prib. i tekh. eksp. 6 no.2:171 Mr-Ap '61. (MIRA 14:9)
(Scintillation counters)

ALIKHANOV, A.I., BABYEV, A.I., BALATS, M. Ya., KAFTANOV, V.S., LANDSBERG, L.G., LYUBIMOV, V.A., OBUKHOV, Yu. V.

"Search for $\mu \to e, \gamma$ Decays"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Institute of Theoretical and Experimental Physics, Moscow, USSR

KATAYEV, A.I., [illegible], M.Ya., [illegible], V.S., [illegible], L. [illegible], [illegible], V.A., OGIEVSKIY, Yu. V.

"Search for [illegible] Decay"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Inst. of Theoretical and Experimental Physics, Moscow, USSR

S/056/62/042/002/048/055
B108/B138

AUTHORS: Alikhanov, A. I., Babayev, A. I., Balats, M. Ya., et al.

TITLE: Further investigation of $\mu \rightarrow e + \gamma$ decay

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 630 - 631

TEXT: The upper limit of a $\mu \rightarrow e + \gamma$ process is $1.6 - 2.0 \cdot 10^{-6}$ of all muon decay events. This is probably the reason why such a process has not yet been observed. Searching for this process the authors devised a technique in which they operate with a spark chamber with high-speed operation electronics. A 70-Mev π^+ beam obtained from the 680-Mev proton synchrotron of the LYaP OIYaI is separated out by the coincidence monitors I, II, 0. The fast coincidences 0, 4, 5, 7, 8, $\overline{6}$, $\overline{9}$, $\overline{A}$ and 0, 1, 2, 10, 11, $\overline{3}$, $\overline{12}$, $\overline{A}$ with a time resolution of about 10^{-8} sec actuate a master signal which starts up the pulse generator for the chamber. The traces in the chamber were photographed from two sides. A third camera recorded the oscillograph, from which was measured the time between signals of the coincidences I, II, 0 and 0, 4, 5, 7, 8, $\overline{6}$, $\overline{9}$, $\overline{A}$ or 0, 1, 2, 10, 11, $\overline{3}$,

Card 1/2

Further investigation of ....

S/056/62/042/002/048/055
B108/B138

T2, T. The six-layer cylindrical chamber B was to record the electrons and gamma quanta. The error in the determination of the collinearity of events was 4.8° across and 20° along the chamber. The efficiencies of 53-Mev electron and gamma recording, were 40 and 15 %, respectively. However, the general efficiency for $\mu \rightarrow e + \gamma$ events was only 0.8 %. The results of the authors' measurement showed that unlike earlier estimates the upper limit of $\mu \rightarrow e + \gamma$ decay processes is $5 \cdot 10^{-7}$. Measurements are being continued.. V. P. Dzhelepov, A. A. Tyapkin, A. S. Kronrod, Yu. A. Simonov, and M. V. Terent'yev are thanked for assistance. There are 1 figure and 3 references: 1 Soviet and 2 non-Soviet. The 2 references to English-language publications read as follows: D. Berley, J. Lee, M. Bardon, Phys. Rev. Lett., 2, 357, 1959; S. Frankel et al. Phys. Rev., 118, 589, 1960.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
(Institute of Theoretical and Experimental Physics)

SUBMITTED: December 9, 1961

Card 2/2

S/056/62/042/006/046/047
B104/B112

AUTHORS: Babayev, A. I., Balats, M. Ya., Kaftanov, V. S., Landsberg, L. G., Lyubimov, V. A., Obukhov, Yu. V.

TITLE: Search for the $\mu^+ \longrightarrow e^+ + e^+ + e^-$ decay

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 6, 1962, 1685-1687

TEXT: An attempt to find the $\mu \longrightarrow 3e$ decay was made with the apparatus shown in Fig. 1. The current of 70-Mev π^+ mesons was separated by coincidences in counters I, II, and 0. The number of π^+ mesons stopped in counter 0 was determined from the number of $\mu^+ \longrightarrow e^+ + \nu + \bar{\nu}$ decays recorded by counters 0 and III (1, 2, $\bar{3}$ + 4, 5, $\bar{6}$ + 7, 8, $\bar{9}$ + 10, 11, $\bar{12}$). Fast coincidences of any pair of lateral counters with a central counter generate a control signal which is amplified and fed to the high-voltage electrodes of two spark chambers. The particle tracks in the chambers are photographed and the interval between the stoppage of a π^+ meson and the generation of the control signal is measured simultaneously. The amplitude of the pulses generated in counter 0 by decay π^+ mesons and decay

Card 1/2

S/056/62/043/005/058/058
B125/B104

AUTHORS: Babayev, A. I., Balats, M. Yu., Kaftanov, V. S., Landsberg, L. G., Lyubimov, V. A., Obukhov, Yu. V.

TITLE: Further search for the $\mu^+ \to e^+ + e^+ + e^-$ decay

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1984

TEXT: The present study reports new results on the $\mu \to 3e$ decay, obtained with the aid of the experimental arrangement used by A. I. Babayev (Preprint ITEF, 1962; ZhETF, 42, 1685, 1962). $1.38 \cdot 10^9$ muon stops were recorded on the target. Through 150 hours not a single stopping process was found that had satisfied the kinematic and other criterions indicated in the above-mentioned previous work. Additional calibrating measurements and electronic computations gave the value $\varepsilon = 0.012$ for the total efficiency of the recording of $\mu \to 3e$ decays when the matrix element of the process $\mu \to 3e$ was assumed to be constant, and the value $\varepsilon = 0.014$ when the matrix element had the form $|M|^2 = \text{const}\, \varepsilon_3(1 - \varepsilon_3)$. For $\varepsilon = 0.012$ the upper limit ρ of the number of $\mu \to 3e$ decays is found to be $\rho < 1.45 \cdot 10^{-7}$,

Card 1/ 2

S/056/62/043/005/058/058
B125/B104

Further search for the...

whereas $\eta < 1.25 \cdot 10^{-7}$ holds for $\varepsilon = 0.014$.

SUBMITTED: September 24, 1962

Card 2/2

BABAYEV, A.I.; BALATS, M.Ya.; KAFTANOV, V.S.; LANDSBERG, L.G.; LYUBIMOV, V.A.; OBUKHOV, Yu.V.

Search for $\mu^+ \rightarrow e^+ + e^-$-decay. Zhur. eksp. i teor. fiz. 42 no.6:1685-1687 Je '62. (MIRA 15:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki.
(Mesons—Decay)

BABAYEV, A.I.; BALATS, M.Ye.; KAFTANOV, V.S.; LANDSBERG, L.G.; LYUBIMOV, V.A.; OBUKHOV, Yu.V.

Further search of the $K^+ \rightarrow e^+ + e^-$ decay.
Zhur. eksp. i teor. fiz. 43 no.5:1984 N '62. (MIRA 15:12)
(Mesons—Decay)

L 1571-66 EWT(m)/EWP(t)/EWP(b) DIAAP/IJP(c) JD/JG

ACCESSION NR: AP5019208 UR/0056/65/049/001/0007/0009

AUTHOR: Balats, M. Ya.; Karapetyan, V. V.; Kondrat'yev, L. N.; Obukhov, Yu. V.

TITLE: Intensity of nonradiative transitions in Ta and Pu^{239} mesic atoms

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 7-9

TOPIC TAGS: mesic atom, nonradiative transition, tantalum, plutonium, Mu meson, x ray spectrum

ABSTRACT: This is a continuation of intensity measurements of nonradiative transitions in a number of heavy elements (ZhETF v. 38, 1715, 1960 and v. 39, 1168, 1960), carried out by means of a scintillation γ-spectrometer. The authors investigated the mesic x-ray spectra and have determined the ratio of the intensities of the 2p--1s transitions in Ta and Pu^{239} relative to Pb. Some modification was made in the experimental set-up for the measurements with Pu in order to accomodate the large background in the γ-spectrometer counter from the natural radioactivity of Pu^{239}. Preliminary measurements have shown that when the γ-detector is loaded by the Pu activity the γ-ray spectrum from the 2p--1s transitions in Pb is displaced towards the hard region by 3--5%, but this shift causes no noticeable error in the experimental results. The fraction of the nonradiative 2p--1s transitions was determined by comparison of the γ-spectra obtained with lead and with the materials

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L 1571-66

ACCESSION NR: AP5019208

studied. The number of radiative transitions was 1 ± 0.08 and 0.59 ± 0.06 for Ta and Pu^{239}, respectively. The corresponding fractions of nonradiative transition were therefore 0 ± 0.08 and 0.41 ± 0.06. In the case of tantalum, a correction was made for the solid angle. The results are consistent with the theoretical assumptions of D. F. Zaretskiy and V. M. Novikov (ZhETF v. 41, 214, 1961). "The authors thank Prof. B. Pontecorvo for suggesting the experiment and for interest in the work." Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKIAE (Institute of Theoretical and Experimental Physics, GKIAE)

SUBMITTED: 18Nov64 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 000

Card 2/2

L 29083-66

ACCESSION NR: AP5019208 UR/0056/65/049/001/0007/0009

AUTHOR: Balats, M. Ya.; Karapetyan, V. V.; Kondrat'yev, L. N.; Obukhov, Yu. V. 35 B

TITLE: Intensity of nonradiative transitions in Ta and Pu^{239} mesic atoms

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 7-9

TOPIC TAGS: mesic atom, nonradiative transition, tantalum, plutonium, Mu meson, x ray spectrum

ABSTRACT: This is a continuation of intensity measurements of nonradiative transitions in a number of heavy elements (ZhETF v. 38, 1715, 1960 and v. 39, 1168, 1960) carried out by means of a scintillation γ-spectrometer. The authors investigated the mesic x-ray spectra and have determined the ratio of the intensities of the 2p--1s transitions in Ta and Pu^{239} relative to Pb. Some modification was made in the experimental set-up for the measurements with Pu in order to accomodate the large background in the γ-spectrometer counter from the natural radioactivity of Pu^{239}. Preliminary measurements have shown that when the γ-detector is loaded by the Pu activity the γ-ray spectrum from the 2p--1s transitions in Pb is displaced towards the hard region by 3--5%, but this shift causes no noticeable error in the experimental results. The fraction of the nonradiative 2p--1s transitions was determined by comparison of the γ-spectra obtained with lead and with the materials

Card 1/2

ACCESSION NR: AP5019208

studied. The number of radiative transitions was 1 ± 0.08 and 0.59 ± 0.06 for Ta and Pu^{239}, respectively. The corresponding fractions of nonradiative transition were therefore 0 ± 0.08 and 0.41 ± 0.06. In the case of tantalum, a correction was made for the solid angle. The results are consistent with the theoretical assumptions of D. F. Zaretskiy and V. M. Novikov (ZhETF v. 41, 214, 1961). "The authors thank Prof. B. Pontecorvo for suggesting the experiment and for interest in the work." Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKIAE (Institute of Theoretical and Experimental Physics, GKIAE)

SUBMITTED: 18Nov64

NR REF SOV: 002

ENCL: 00

OTHER: 000

SUB CODE: NP

Card 2/2

L 22404-66 EWP(e)/EWT(m)/T WH
ACC NR: AP6006791 SOURCE CODE: UR/0386/66/003/001/0003/0004

AUTHOR: Babayev, A. I.; Balats, M. Ya.; Myasishcheva, G. G.; Obukhov, Yu. V.; Roganov, V. S.; Firsov, V. G.

ORG: Institute of Theoretical and Experimental Physics (Institut teoreticheskoy i eksperimental'noy fiziki)

TITLE: Observation of atomic muonium in crystalline quartz

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 1, 1966, 3-4

TOPIC TAGS: quartz, muon, positron, angular distribution, spin, magnetic moment, relaxation process

ABSTRACT: The asymmetry coefficient (c') in the angular distribution of the positrons from the decay of mesons stopped in crystalline quartz at room temperature was measured in the meson beam of the OIYaI synchrocyclotron with the aid of apparatus used to observe μ^+-meson spin precession in a magnetic field. Four cycles of the sinusoidal precession curve, with a frequency corresponding to the magnetic moment and spin of the μ^+ meson, were traced at a magnetic field intensity 50.0 ± 0.3 oe for ~6 μsec after the stopping of the μ^+ meson in the target. The asym-

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L 22404-66
ACC NR: AF6006791

metry coefficient corrected for the energy spectrum of the emitted positrons, for the counter geometry, and for the beam polarization was equal to $c' = 0.065 \pm 0.006$ (the total number of μ^+ mesons stopped in the target was 4×10^6, and the product of the solid angle by the counter efficiency was ~1/30). At a magnetic field intensity 2.70 and 1.35 oe the obtained precession corresponded to the frequency of revolution of atomic muonium with exponentially damped amplitude and with relaxation time 0.3--0.4 μsec. The experimental asymmetry coefficient, extrapolated to zero time, was $c_0' = 0.09$--0.13 without correction for the beam polarization. A more detailes investigation of the precession of atomic muonium was hindered by the presence of intensity modulation, connected with the fine structure of the accelerator pulse. Work on the investigation of the phenomenon is being continued.

SUB CODE: 20/ SUBM DATE: 03Nov65

Card 2/2

L 02210-67 EWT(m)/T

ACC NR: AT6031145 SOURCE CODE: UR/3138/65/000/388/0003/0028

AUTHOR: Babayev, A. I.; Myasishcheva, G. G.; Obukhov, Yu. V.; Roganov, V. S.; Firsov, V. G.; Balats, M. Ya.

ORG: none

TITLE: Experimental investigation of the chemical reactions of muonium

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 388, 1965. Eksperimental'noye issledovaniye khimicheskikh reaktsiy myuoniya, 3-28

TOPIC TAGS: muonium, muon chemical interaction, muonium interaction, atomic muonium, assymetry coefficient, angular positron distribution, binary mixture, competing acceptor method

ABSTRACT: Measurements were made of assymetry coefficients in the angular distribution of escaping positrons $\mu^+ - e^+$ for several compounds and their binary mixtures. The results obtained were used to compute the constants of the rate of interaction between atomic muonium and substance. To augment the accuracy of the results and to clarify the mechanism of the process, a method of competing

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ACC NR: AT6031145 5

acceptors was used for reactions in parallel. The dependence of the coefficient of assymetry on the intensity of the magnetic field was determined for several compounds. The data are discussed from the point of view of the chemical interaction of muonium. The authors thank Academician A. I. Alikhanov and V. A. Lyubimov for their interest in this work, V. I. Volkov for his assistance in carrying out the measurements, and A. O. Vaysenberg and L. N. Kondrat'yev for their helpful evaluations and discussion of the work. Orig. art. has: 4 tables and 11 figures. [Based on authors' abstract] [SP]

SUB CODE: 07, 20/ SUBM DATE: 15Oct65/ ORIG REF: 006/ OTH REF: 012/

ACC NR: AP6014026 SOURCE CODE: UR/0056/66/050/004/0877/0889

AUTHOR: Babayev, A. I.; Balats, M. Ya.; Myasishcheva, G. G.; Obukhov, Yu. V.; Firsov, V. G.; Roganov, V. S. 60 B

ORG: Institute of Theoretical and Experimental Physics (Institut teoreticheskoy i eksperimental'noy fiziki)

TITLE: Experimental investigation of chemical reactions of muonium 19

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 4, 1966, 877-889

TOPIC TAGS: muonium, positron, angular distribution, magnetic field, chemical reaction, atomic muonium, positron distribution

ABSTRACT: The asymmetry coefficients in the angular distribution of positrons, emitted in μ-e-decays were measured for a number of compounds and their binary mixtures. The rate constant for interaction between the atomic muonium and matter were computed on the basis of the results obtained. The method of competing acceptors for parallel reactions was employed with the aim of raising the accuracy of measurements and elucidating the mechanism of the processes. The dependences of the asymmetry coefficients on the magnetic field strength were measured for a number of compounds. The data were discussed within the framework of the chemical reactions with muonium. The authors express their thanks to Academicians A. I. Alikhanov and

Card 1/2

L 36301-66

ACC NR: AP6014026

V. A. Lynbimov for their support and interest in this work, V. I. Volkov for assistance with measurements, and A. M. Brodsko, A. O. Vaysenberg, V. I. Gol'danskiy, and L. N. Kondrat'yev for valuable comments and useful discussions. Orig. art. has: 11 figures, 2 formulas, and 4 tables. [Based on authors' abstract.] [NT]

SUB CODE: 20, 11/ SUBM DATE: 01Nov65/ ORIG REF: 008/ OTH REF: 013

Card 2/2

BALATSENKO, D.N.

Abdominal adhesions following laparotomy [with summary in English p.158] Vest.khir. 77 no.5:41-51 My '56. (MLRA 9:8)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. prof. A.V. Mel'nikov) 1-go Leningradskogo meditsinskogo instituta imeni I.P.Pavlova

(LAPAROTOMY, complications,
postop. adhesions (Rus))
(ADHESIONS,
abdom. after laparotomy (Rus))

BALATSENKO, D.N., dotsent (Leningrad, pr. Dobrolyubova, d.25, kv.9)

Volvulus of various segments of the gastrointestinal tract caused by postoperative adhesions. Vest.khir. 83 no.10:69-78 O '59.
(MIRA 13:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zaveduyushchiy - prof. V.I. Kolesov) 1-go Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.

(INTESTINAL OBSTRUCTION etiology)
(ADHESIONS complications)
(SURGERY OPERATIVE complications)

[illegible]KO, D.N.; PAVLOVA, N.M.

Diagnostic errors in anemic forms of cancer of the large intestine. Vop.onk. 7 no.11:50-55 '61. (MIRA 15:5)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. V.I. Kolesov) 1-go Leningradskogo meditsinskogo instituta im. akad. I.P. Pavlova.

(INTESTINES--CANCER)

SHNAYDMAN, L.O.; KUSHCHINSKAYA, I.N.; Prinimali uchastiye: SILING, M.I.; BALATSENKO, S.V.; SHEVYREVA, O.N.; RYUMINA, N.V.; VASIL'YEVA, G.A.

Catalytic oxidation of diacetone-L-sorbose in diacetone-2-keto-L-gulonic acid with atmospheric oxygen. Trudy VNIVI 8:13-22 '61. (MIRA 14:9)

(Sorbose) (Gulonic acid)

BALATSKAYA, L.K. [Balats'ka, L.K.]

Pecularities of the creative imagination in younger pupils. Nauk. zap. Nauk.-dosl. inst. psykhol. 11:52-56 '59. (MIRA 13:11)

1. Institut psikhologii, Kiyev.

(Imagination)

V.; Balatsky, A.

TRANSLATION: Preliminary results are presented of an investigation of the operation of a [illegible] welding machine whose design makes it possible to obtain [illegible] welding current which have a considerable magnitude but which are of short duration. A basic diagram of the setup is given. The effect of the angle of ignition of the ignitrons on the form of the

the limiting power of the welding transformer, [illegible] to increase

BALATSKIY, L.

Boring flooding valve seats by means of special devices; Odessa Ship Repair Yard No.1. Inform.sbor.TSNIIMF no.26:79-82 '58. (MIRA 13:4)

1. Odesskiy sudoremontnyy zavod No.1.
(Odessa--Shipyards--Equipment and supplies)
(Ships--Maintenance and repair)

BALATSKIY, L.T.; RUSHAK, N.T.

New method for making bushings of rod brass. Mashinostroitel' no.8:23 Ag '60. (MIRA 13:9)

(Machine-shop practice)

BALATSKIY, L. T.

Device for checking the coaxiality of the keygroove and shaft journal. Mashinostroitel' no.10:15 O '62. (MIRA 15:10)

(Gauges)

STAROSEL'SKIY, A.A., dotsent; BALATSKIY, L.T., inzh.

Analyzing the performance of conical coupling without keys.
Sudorem. i sudostr. no.2:16-31 '63. (MIRA 17:4)

1. Odesskiy institut inzhenerov morskogo flota (for Starosel'skiy).

BALATSKIY, L.T., inzh.

Fatigue strength of cone coupling; shafts under the effect of torsion. Sudostroenie 30 no.2:40-44 F '64. (MIRA 17:4)

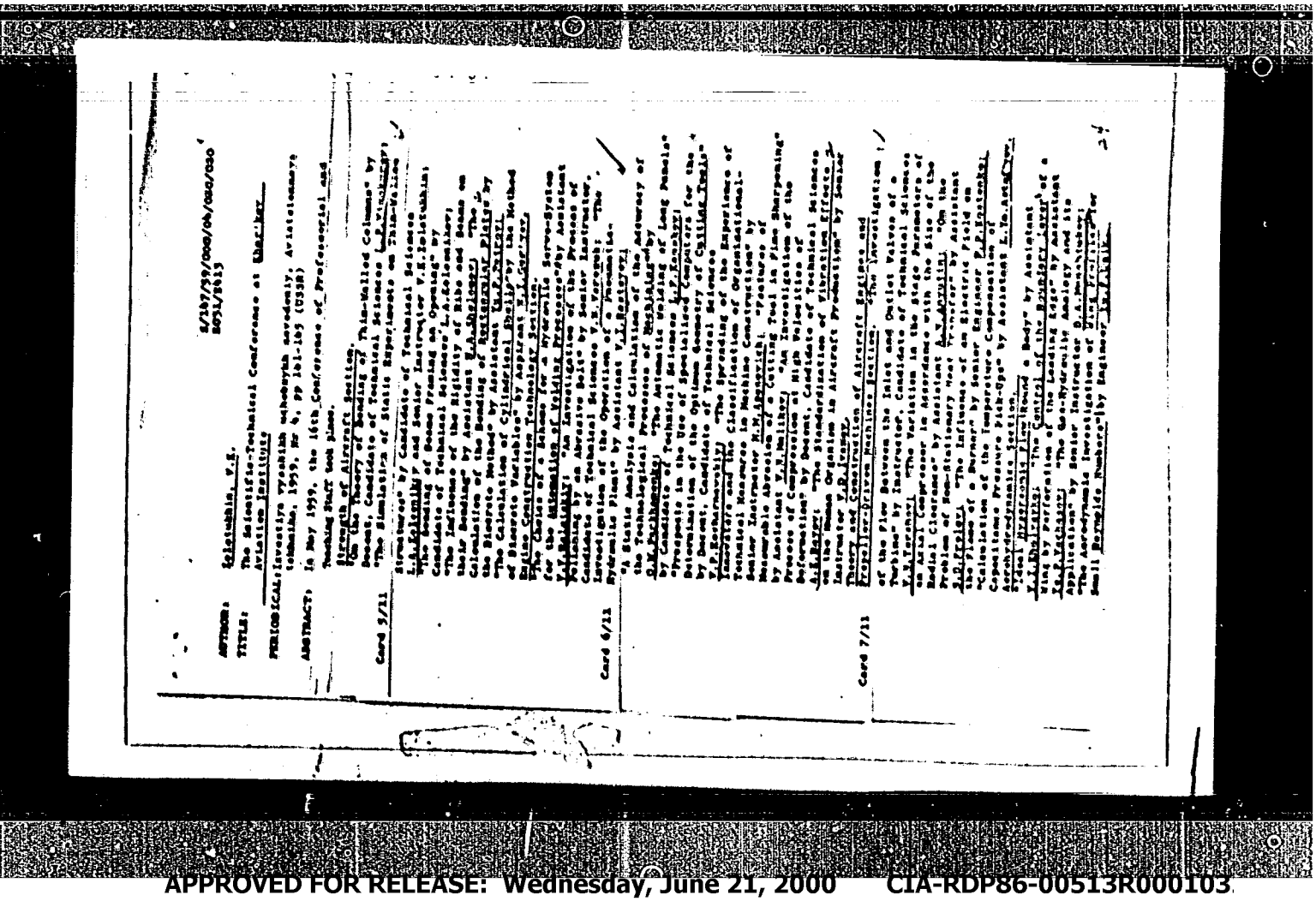
BAIATSKIY, L.T., inzh.; STAROSELSKIY, [illegible]

Increasing the fatigue strength under torsion of taper key shaft couplings. Sudostroenie 30 no.1:37-39 [illegible].

(MIRA 17:12)

BALATSKIY, L.T.

Device for measuring internal radius. Mashinostroitel' no.7:
23 Jl '65. (MIRA 18:7)



3?355

/ 2300

S/135/62/000/006/009/014
A006/A106

AUTHORS: Tumarkin, M. B., Kamskov, L. F., Candidates of Technical Sciences, Balatskiy, V. V., Engineer, Manzhos, P. S.

TITLE: Hydraulic servomechanism to direct an automatic welding unit along the weld

PERIODICAL: Svarochnoye proizvodstvo, no. 6, 1962, 28 - 30

TEXT: A hydraulic servomechanism was developed for the automatic motion of a welding unit along a cable (Figure 1). A guide roll, sliding along the cable, registers deviations of the welding torch and transmits them to control valve 4, which reestablishes the correct position of the torch with the aid of pneumatic cylinder 1. To one side the torch moves under the effect of oil supplied under pressure P_1 to the left-hand hollow of the cylinder; to the other side its motion is activated by spring 3. The welding unit moves along the weld on girder guides. The seam can be located parallel or non-parallel to the guides. In the latter case, when the track motion is connected with the turning of the welding torch, the cable must be adjusted with respect to the seam with some correction. The proposed design of the servomechanism can be used in weld-

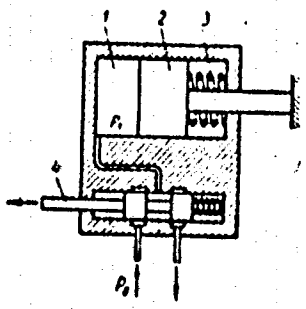
Card 1/2

Hydraulic servomechanism to...

ing of long straight or shaped joints. Tests showed stable operation of the mechanism. The motion speed of the system increases with a greater oil presssure. Maximum speed can be attained (up to 1,000 mm/min) at a pressure of P_o = 25 ÷ 30 kg/cm^2. There are 4 figures.

ASSOCIATION: Khar'kovskiy aviatsionny institut (Khar'kov Aviation Institute)

Figure 1.
Schematic diagram of a hydraulic servomechanism



Card 2/2

BALATSKIY, V.V., inzh.

Machinability of parts made of the ZhG-2 ceramic metal. Mashinostroenie no.4:19-22 Jl-Ag '63. (MIRA 17:2)

1. Khar'kovskiy aviatsionnyy institut.

L 14716-66 EWT(1)/EWP(e)/EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b) MJW/JD/WW/HW/WH
ACC NR: AT6004133 SOURCE CODE: UR/0420/65/000/001/0139/0143 6/ B+1

AUTHOR: Balatskiy, V. V.

ORG: Khar'kov Aviation Institute (Khar'kovskiy aviatsionnyy institut)

TITLE: Determining the allowable cutting speed in machining powdered-metal-alloy parts

SOURCE: Samoletostroyeniye i tekhnika vozdushnogo flota, no. 1, 1965, 139-143

TOPIC TAGS: cermet, metal machining, mechanical metal cutting, alloy/ZhG-2 alloy, R18 alloy, T15K6 alloy, VK8 alloy

ABSTRACT: The results of a study of the machinability of ZhG-2 alloy (2% graphite) are given. The work was done on the basis of theses established by I. M. Besprozvannyy (Trudy MVTU im. Baumana, sb. Rezaniye metallov, No. 12, Mashgiz, 1951). R18, T15K6, and VK8 cutting tools were studied. A graph of the wear of the R18 cutting tool is shown in Fig. 1. Formulas are derived for the allowable cutting speeds of the three cutting-tool alloys for ZhG-2. Hard alloy VK8 is found

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2.

L 14716-66
ACC NR: AT6004133

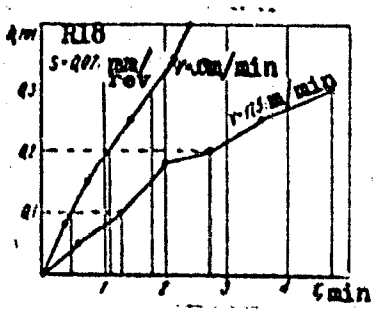

Fig. 1. Amount of wear versus time for R18 cutting tool at S = 0.035 mm/rev.

to be better. Orig. art. has: 17 formulas, 5 graphs, and 1 table.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 001

OVK
Card 2/2

BALATSKO, L. D., Cand Tech Sci (diss) -- "Investigation of the process of pneumatic transporting of seed". Moscow, 1960. 15 pp (Joint Scientific Council of the All-Union Sci Res Instof the Mechanization of Agric VIM and the All-Union Sci Res Inst of the Electrification of Agric VIESKh), (KL, No 14, 1960, 131)

MAYA, N.V.; NIKOLAYEV, A.F.; BALAYEV, G.A.

Free radical copolymerization of isoprene oxide and isoprene chlorohydrin with styrene and methyl methacrylate. Vysokom. soed. 7 no.2:211-213 F '65. (MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

BAIAT'YEV, P. K.

Chemical Technology

Sovremennaya mekhanizatsiya zhelezobetonnykh rabot.
(Novaya tekhnika i peredovye metody truda)
Moscow, Vsesoyuznoe Uchebno-Pedagogicheskoe Izdatel'stvo Trudrezervizdat, 1953.
pp. 67, photos., diags., biblio., 22 x 14.

LXIII-1
LXI...

BALAT'YEV, Pavel Konstantinovich, kandidat tekhnicheskikh nauk; PISAREV-[illegible], V.M., dotsent, kandidat tekhnicheskikh nauk, redaktor, SHARKHUN, N.Z., redaktor; OSTROUB, N.S., tekhnicheskiy redaktor

[Concrete work] Betonnye raboty. Moskva, Vses. uchebno-pedagog. izd-vo Trudreservizdat, 1954. 222 p. (MLRA 8:5)
(Concrete construction)

BALAT'YEV, P., kandidat tekhnicheskikh nauk; KAPLANSKIY, Ya., kandidat tekhnicheskikh nauk.

Construction yard with a concreting combine for producing precast concrete products. Stroi. mat., izdel. i konst. 1 no.10:4-7 O '55. (MLRA 9:1)

1.Zamestitel' direktora po nauchnoy chasti Vsesoyuznogo nauchno-issledovatel'skogo instituta zhelezobetona.(for Balat'yev). 2. Starshiy nauchnyy sotrudnik instituta.(for Kaplanskiy).
(Reinforced concrete) (Concrete, Prestressed)

BALAT'IEV, P., kandidat tekhnicheskikh nauk.

Some problems in the technology of making precast concrete in factories. Stroi.mat., izdel. i konstr. no.6:12-15 Je '55. (MLRA 9:1)

1.Zamestitel' direktora Vsesoyuznogo nauchno-issledovatel'skogo instrumental'nogo instituta zhelezobetona po nauchnoy chasti.
(Precast concrete)

BALAT'YEV,P.K., kandidat tekhnicheskikh nauk; SOROKER,V.I., kandidat tekhnicheskikh nauk; KAYSER,L.A., inzhener;DOVZHIK,V.G., inzhener

For further progress in the construction industry. Bet. i zhel.-bet. no.6:193-197 S '55. (MLRA 8:9)
(Construction industry)

BALAT'YEV, P.K., kandidat tekhnicheskikh nauk; SOROKER, V.I., kandidat tekhnicheskikh nauk; KAYSER, L.A., inzhener; DOVZHIK, V.G., inzhener

High-strength concrete mixtures in the production of reinforced concrete elements. Bet. i shel.-bet. no.6:197-203 S '55.
(Precast concrete) (MLRA 8:9)

BALAT'YEV, P., kandidat tekhnicheskikh nauk.

Industrial construction elements made of precast reinforced concrete. Strei.mat., izdel. i konstr. 2 no.3:13-16 Mr '56. (MLRA 9:7)

1.Zamestitel' direktora po nauchnoy chasti Vsesoyuznogo nauchno-issledovatel'skogo instituta Zheleznobetona.
(Precast concrete)

BALAT'YAN, R., kandidat tekhnicheskikh nauk.

Technology of precast prestressed reinforced concrete. Stroi. mat. 3:18-20 My '57. (MLRA 10:6)

1. Zamestitel' direktora Vsesoyuznyy nauchno-issledovatel'skogo instituta zhelezobetona po nauchnoy chasti.
(Precast concrete)

AUTHORS: Balat'yev, P.K. and Kaplanskiy, Ya.L., Candidates of Technical Sciences 100-9-7/11

TITLE: Some Construction Defects of Concreting Equipment ("Combines") (Nekotoryye konstruktivnyye nedostatki betoniruyushchikh agregatov (kombaynov)

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1957, No.9, pp. 20 - 23 (USSR).

ABSTRACT: Ten factories were erected in the Khar'kov area during 1955 and 1956 for manufacturing pre-stressed hollow floor slabs for houses (Rostov-on-Don, Amvrosiyevok, Kishinev, etc.). During 1957, thirty factories were built in various parts of the country. Fig. 1 shows a concreting combine used for the preparation of reinforced pre-stressed concrete floor slabs. Improvements are recommended, such as: the concretor, bunkers and casting mechanisms should be constructed to be movable in a horizontal plane. The insets forming the hollows, the dividing plates and the terminal grooving rods are subjected to constant abrasion from the concrete and can only be used for about 3 months. The cast iron swivel bearings should be substituted by steel bearings. The position of the operator's cabin should be altered to allow him to control the various phases of production. The gripping mechanism for handling the slabs should

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be reconstructed to ease manipulation of the same. The clamp carrying the slabs should also be modified. The power supply by 2 overhead trolleys is unsafe. An alternative power supply by flexible cables which are protected by a wooden box and freely following the moving concretor is recommended as less dangerous. A bucket of 0.5 m^3 capacity is used for delivery of the concrete mix. A 3 ton capacity telpher lifts the buckets at a rate of 0.12 m/sec. The plant is not working when the buckets are used for filling the bunkers (approx. 30 min/shift). The capacity of the buckets should be increased to 0.8 to 1 m^3 to avoid this delay. The factory is manufacturing hollow floor slabs of the following dimensions: height - 65, 120, 160 and 200 mm: width - 1 m. The VNIIZhelezobeton designed in 1956 a machine for manufacturing slabs with a larger proportion of voids (Fig.3). An M-50 vibrator with 0.5 kW/ton capacity is inserted into each hollow-forming tube. This vibrator works at a rate of 5 700 r.p.m. Fig. 4 shows a machine used for an alternative method of forming the hollows, without vibration. The output of the factory reaches 2 000 m^3 of hollow floor slabs per month, when 2 shifts are working (1 m wide and 200 mm high). There are 4 figures.

AVAILABLE: Library of Congress
Card 2/2 1. Construction-Equipment-Defects 2. Prestressed concrete-Applications

BERDICHEVSKIY, G.I., kand.tekhn.nauk; DMITRIYEV, S.A., kand.tekhn.nauk; MIKHAYLOV, K.V., kand.tekhn.nauk; OVOZDEV, A.A., prof., doktor tekhn.nauk; MIKHAYLOV, V.V., prof., doktor tekhn.nauk; BULGAKOV, V.S., kand.tekhn.nauk; VASIL'YEV, A.P., kand.tekhn.nauk; YEVGEN'YEV, I.Ye., kand.tekhn.nauk; MULIN, N.M., kand.tekhn.nauk; SVETOV, A.A., kand.tekhn.nauk; FRENKEL', I.M., kand.tekhn.nauk; BELOBROV, I.K., inzh.; MATKOV, N.G., inzh.; MITNIK, O.S., inzh.; SKLYAR, B.L., inzh.; SHILOV, Ye.V., inzh.; MASSENKO, I.D., inzh.; NIZHNICHENKO, I.P., inzh.; FILIPPOVA, O.P., inzh.; MIZERNYUK, B.N., kand.tekhn.nauk; SHEYNFEL'D, N.M., kand.tekhn.nauk; BALAT'YEV, P.K., kand.tekhn.nauk; BARBARASH, I.P., kand.tekhn.nauk; MITGARTS, L.B., kand.tekhn.nauk; SHIFRIN, M.A., kand.tekhn.nauk; PETROVA, V.V., red.izd-va; TEMKINA, Ye.L., tekhn.red.

[Temporary instruction on the technology of making prestressed reinforced concrete construction elements] Vremennaia instruktsiia po tekhnologii izgotovleniia predvaritel'no napriazhennykh zhelezobetonnykh konstruktsii. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 255 p. (MIRA 12:12)

(Continued on next card)

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1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona, Perovo. 2. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR (for Gvozdev, V.V.Mikhaylov, Berdichevskiy, Bulgakov, Vasil'yev, Dmitriyev, Yevgen'yev, K.V.Mikhaylov, Mulin, Svetov, Frenkel', Belobrov, Matkov, Mitnik, Sklyar, Shilov). 3. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhpomoshchi Akademii stroitel'stva i arkhitektury SSSR (for Masenko, Nizhnichenko, Filippova, Mizernyuk, Sheynfel'd). 4. Nauchno-issledovatel'skiy institut Glavmospromstroymaterialov (for Balat'yev, Barbarash). 5. Nauchno-issledovatel'skiy institut po stroitel'stvu Ministroya RSFSR (for Mitgarts, Shifrin). 6. Deystvitel'nyye chleny Akademii stroitel'stva i arkhitektury SSSR (for Gvozdev, V.V.Mikhaylov).

(Prestressed concrete)

BALAT'YEV, P.K., kand.tekhn.nauk; KAPLANSKIY, Ya.L., kand.tekhn.nauk

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(Concrete slabs)

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(Precast concrete) (Electronics)

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(Gypsum) (Gypsum products)

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